CLAIMS

Claimed is:

1. An electronic switch adapted to assume two switching states, an ON-state and an OFF-state, said electronic switch comprising:

at least one field effect switching transistor,

an input port connected to a source terminal of the at least one field effect switching transistor, wherein an input signal exists at said source terminal,

an exit output port connected with a drain terminal of the at least one field effect switching transistor, wherein a switched signal exists at said drain terminal,

a control port connected with a gate terminal of the at least one field effect switching transistor, wherein a control signal for controlling the electronic switch exists at said gate terminal, and

a switching apparatus adapted to create the two switching states by an alteration of the control signal,

wherein the control signal, during at least one of the two switching states, is at least partially produced from a correction signal formed from the input signal, so that a frequency dependent voltage drop between a drain-source channel and a gate electrode of the at least one field effect switching transistor is at least partially compensated.

2. The electronic switch of claim 1, wherein a converter having an adjustable voltage gain generates the correction signal from a waveform of the input signal.

3. The electronic switch of claim 2, wherein the adjustable voltage gain carries a value of unity.

4. The electronic switch of claim 2, wherein the converter possesses a low output impedance and a high input impedance.

5. The electronic switch of claim 2, wherein the converter comprises field effect transistors.

6. The electronic switch of claim 5, wherein the field effect transistors are n-channel type Metal Semiconductor Field Effect Transistors (MESFETs).

7. The electronic switch of claim 1, wherein the at least one field effect switching transistor is at least one member selected from the group consisting of a Metal Semiconductor Field Effect Transistor (MESFET), an n-channel type

MESFET, a gallium arsenide based transistor and a High Electron Mobility Transistor (HEMT).

8. The electronic switch of claim 1, wherein the switching apparatus comprises field effect transistors.

9. The electronic switch of claim 8, wherein the field effect transistors are n-channel type Metal Semiconductor Field Effect Transistors (MESFETs).

10. The electronic switch of claim 1, wherein the switching apparatus is adapted to apply to the control port either a first DC voltage or the correction signal, such that the two switching states are attained.

11. The electronic switch of claim 10, wherein the OFF-state is established upon connecting the first DC voltage with the control port, and the ON-state is established upon connecting the control port with the correction signal.

12. The electronic switch of claim 11, wherein the first DC voltage is more negative than a pinch-off voltage of the at least one field effect switching transistor.

13. The electronic switch of claim 1, wherein the switching apparatus is adapted to connect to the control port either a first DC voltage superimposed with the correction signal or a second DC voltage superimposed with the correction signal, such that the two switching states can be achieved.

14. The electronic switch of claim 13, wherein connecting to the control port the first DC voltage superimposed with the correction signal switches the electronic switch into the OFF-state, and connecting to the control port the second DC voltage superimposed with the correction signal switches the electronic switch into the ON-state.

15. The electronic switch of claim 14, wherein the first DC voltage is more negative than a pinch-off potential of the at least one field effect switching transistor and/or the second DC voltage is about the same as a reference potential of the electronic switch.

16. The electronic switch of claim 10, wherein the control port is connected to the source terminal of a second field effect transistor and is connected to the drain terminal of a third field effect transistor, the gate terminal and the source terminal of the third field effect transistor are connected to a fifth DC voltage less than a reference potential, the gate terminal of the second field effect transistor is connected by a series resistor with the input port, and the drain terminal of the second

field effect transistor is optionally connected to the reference potential by the switching apparatus, a positive third DC voltage or a negative fourth DC voltage.

17. The electronic switch of claim 16, wherein the second and the third field effect transistors exhibit identical electrical characteristic curves.

18. The electronic switch of claim 13, wherein the control port is connected to the drain terminal of a third field effect transistor and is connected to a first terminal of a first resistor, a second terminal of the first resistor is connected to the source terminal of a second field effect transistor, the drain terminal of the second field effect transistor is connected to a positive sixth DC voltage, the gate terminal of the second field effect transistor is connected to the input port, the gate terminal of the third field effect transistor is connected to a negative seventh DC voltage and to a first terminal of a second resistor and to the switching apparatus, and by way of the switching apparatus the first terminal of the second resistor is connected to a first terminal of a third resistor and the second terminal of the third resistor together with the second terminal of the second resistor is connected to the source terminal of the third field effect transistor.

19. The electronic switch of claim 18, wherein a switching together of the first terminal respectively of the second and third resistors by way of the switching apparatus creates the OFF-state.

20. The electronic switch of claim 19, wherein the second and the third field effect transistor exhibit identical electrical characteristic curves and the first and the second resistor exhibit identical electrical characteristic curves.

21. The electronic switch of claim 1, wherein all field effect transistors are normally-on transistors.

22. The electronic switch of claim 1, wherein the input port connects through a sixth resistor with a non-inverting input of an operational amplifier, the switching apparatus by way of a fourth resistor switches either to a reference potential or switches an eighth DC voltage to an inverting input terminal, in order to bring about the switching states, a fifth resistor connects the inverting input terminal with an output of the operational amplifier, an output terminal of the operational amplifier with the control port and a seventh resistor connects the non-inverting input terminal with the reference potential.

23. The electronic switch of claim 22, wherein the fourth, fifth, sixth and seventh resistors have identical resistance values.

24. The electronic switch of claim 23, wherein the ON-state is switched into by way of the connection of the fourth resistor with the reference potential and the OFF-state is switched into by way of the connection of the fourth resistor with the eighth DC voltage.

25. The electronic switch claim 24, wherein the eighth DC voltage is positive in relation to the reference potential.